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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/131,693	08/10/1998	HOON-SOON CHOI	1317.1043/MO	8185

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EXAMINER

CHIEU, PO LIN

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 03/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

701

<b>Office Action Summary</b>	<b>Application No.</b> 09/131,693	<b>Applicant(s)</b> CHOI, HOON-SOON	
	<b>Examiner</b> Polin Chieu	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

The examiner has withdrawn the restriction for the reasons discussed by the applicant.

### ***Claim Objections***

1. Claim 2 is objected to because of the following informalities: "predetermined code word and correction range" do not have antecedent basis. The examiner believes that the claim is referring to the "predetermined code length and error correction range". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4, 7, 11, 12, 14-15, and 20-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Jeong et al (6,233,394).

Regarding claims 1, 4, 7, 11-12, 14, and 15, Jeong et al (6,233,394) discloses a PLL receiving two pulse streams to generate a PLL clocks (300) in figure 1 (col. 2, lines 50-67 and col. 3, lines 1-39); a frame/ID sync detector to generate a symbol clock (240); a demodulator performing EFM+ in a DVD mode (212) and EFM in a CD mode (214); a external memory to store the demodulated data from the demodulator (280); a ECC (230, 235) to error correct according to a predetermined code length and error correction range and storing the data back into the memory (col. 4, lines 25-45); a descrambler (240) that descrambles the error corrected data in the memory (col. 4, lines 40-59) for use with an audio/video decoder (600, fig. 1); and a CD audio processor (290).

Regarding claims 20-23, 25-29, and 31-35, Jeong et al (6,233,394) discloses a single pre-processor generating a clock from a pulse stream read from one of the DVD and the CD and performing demodulation according to the discrimination information (col. 3, lines 21-67 and col. 4, lines 1-3); a memory unit (280) storing in a corresponding format according to discrimination information (col. 4, lines 25-40); and a data processor and converter (audio-convert or data convert) processing the data stored in the memory unit using a error correcting method dependent on a code length and a correcting range (col. 4, lines 25-40).

Regarding claims 24, 30, and 36, Jeong et al (6,233,394) discloses a memory (280) and a memory controller (270).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (6,233,394) in view of Chang et al (6,119,262).

Regarding claims 2, 3, and 10, Jeong et al (6,233,394) discloses a predetermined code length and error correction range in the DVD mode PI(182,172) and PO(208,192). However, Jeong et al (6,233,394) does not disclose a predetermined code length and error correction range for a CD mode; a syndrome generator; a modified syndrome calculator; a modified Euclidean algorithm; and Chien search engine.

Chang et al teaches a predetermined code length C1(32,28) and a error correction range C2(38,24) (col. 8, lines 55-67); a syndrome generator (20); a erasure constant generator to receive an erasure flag to generate an erasure constant (fig. 1b); a modified syndrome calculator to receive the syndrome polynomial and the erasure constant to calculate a modified syndrome and generate a Forney syndrome polynomial (col. 5, lines 5-10); a modified Euclidean algorithm to process the Forney syndrome polynomial and the erasure polynomial based on a modified Euclidean algorithm, to generate an errata locator polynomial and an errata evaluator polynomial (col. 5-6); and

a Chien search and error correction circuit to correct errors of the demodulated data stored in the memory according to the errata locator polynomial and the errata evaluator polynomial (24).

Since Jeong et al (6,233,394) does not disclose a specific method of error correction, it would have been highly desirable to use any known method of error correction.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the method described in detail by Chang et al.

5. Claims 5-6, 8, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (6,233,394) in view of Jeong (5,988,872).

Regarding claims 5-6, 8, and 13, Jeong et al (6,233,394) discloses a first memory map including a plurality of blocks with a fixed number of bytes. However, Jeong et al (6,233,394) does not disclose a second memory map for a CD mode; the plurality of blocks is 13; the first fixed number of bytes is 32.25 Kbytes; the plurality of frames is 256; and the second fixed number of bytes is 32 bytes.

Jeong '872 teaches a second memory map in fig. 4. A plurality of blocks and frames, and a first and second fixed number of bytes are not disclosed; however, these factors are dependent on the processing and the size of the memory. Further, the specifications have provided no predication why these specific numbers would be better than any other. Therefore, it would have been obvious to have the plurality of blocks at 13, the first fixed number of bytes at 32.25 bytes, the plurality of frames at 256, and the second fixed number of bytes at 32.

It would have been highly desirable to have a first and second memory map so that processing DVD data and CD data could be performed. For example, in the processing of video data (or DVD mode), it common to group data into 8x8 pixel blocks. However, audio data (or CD data) does not process into 8x8 pixel blocks because audio data does not have pixels. Therefore, it is clear that the groupings of audio and video would require different memory maps when a single memory is used.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a first and second memory map in the device of Jeong et al (6,233,394).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (6,233,394) in view of Jeong '872 and Shim (5,970,208).

Jeong et al (6,233,394) does not disclose a VBR control margin.

Shim teaches a VBR control margin to interface the error corrected data with an AV decoder (col. 5, lines 1-15).

It would have been highly desirable to have VBR control margin to control the flow of data.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a VBR control margin in the device of Jeong et al (6,233,394).

7. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (6,233,394) and Chang et al.

Regarding claim 16, Jeong et al (6,233,394) discloses a combined DVD and CD processor (200) with a demodulator (212, 214) to demodulate the first and second pulse streams in a DVD mode and a CD mode; and a single external memory (280).

However, Jeong et al (6,223,394) does not disclose a single ECC.

Chang et al teaches a single ECC circuit (Fig. 1b) that processes both DVD and CD data (col. 8, lines 55-67 and col. 9, lines 1-2).

It would have been highly desirable to have a single ECC to simplify the circuit and make the device cheaper.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a single ECC in Jeong et al (6,223,394).

The limitations of claims 17-19 were discussed in the art rejection of claims 1-2. Please refer to the art rejections of claims 1-2.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee et al (WO 94/14159), Jeong (6,130,988), Tamura et al (5,323,367), Cho et al (6,282,367 and 6,158,039), Shim (5,970,208), Chung (6,044,484), Kim et al (5,963,705), Lee (5,995,707), Yoneda (5,517,509), Imade et al (5,898,709), and Ueno (6,151,442).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Polin Chieu whose telephone number is (703) 308-6070. The examiner can normally be reached on M-F 8:30 AM-6:30 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B. Christensen can be reached on (703) 308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

PC  
February 25, 2002



**ANDREW B. CHRISTENSEN**  
**PRIMARY EXAMINER**